What Is Claimed Is:

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- 1. A micro inertia sensor comprising
- a lower glass substrate;
- a lower silicon including a first border, a first fixed point and a side movement sensing structure;

an upper silicon including a second border, a second fixed point being connected to a via hole, in which a metal wiring is formed, on an upper side, and a sensing electrode, which correspond to the first border, the first fixed point and the side movement sensing structure;

a bonded layer by a eutectic bonding between the upper silicon and the lower silicon; and

an upper glass substrate, being positioned on an upper portion of the upper silicon, for providing the via hole on which an electric conduction wiring is formed.

2. The micro inertia sensor according to claim 1, wherein the side movement sensing structure comprises a structure being movable in a horizontal direction and an sensing electrode for sensing a variation of a capacity as the structure horizontally moves.

- 3. The micro inertia sensor according to claim 1, wherein the sensing electrode senses the capacity in a vertical direction.
- 5 4. The micro inertia sensor according to claim 1, wherein the bonded layer by the eutectic bonding is formed by Au-Si eutectic bonding.
- 5. The micro inertia sensor according to claim 1, wherein the via hole is formed on the upper glass substrate, extending to the inside of the second fixed point of the upper silicon.
 - 6. A method of manufacturing the micro inertia sensor comprising the steps of:
- 15 forming a device wafer by forming a lower silicon on a lower glass substrate; etching the lower silicon for forming a side movement sensing structure including a structure being movable in a horizontal direction on the lower silicon and an sensing electrode for sensing a variation of a capacity as the structure horizontally moves, a first fixed point, and a first border for bonding; etching the lower glass substrate as a sacrificial layer; and separately evaporating Au for bonding on the lower silicon layer;

forming a cap wafer by forming an upper silicon on an upper glass substrate; forming a gap in the upper silicon; forming an second fixed point, an second border and a second sensing electrode, which correspond to the first fixed point, the first border and the structure movable in a horizontal direction in the device wafer process; and forming the via hole from an upper glass substrate to the second fixed point; and

bonding the device wafer and the cap wafer by a eutectic bonding; evaporating an electric conduction layer on the via hole to form an electric conduction wiring.

- 7. A micro inertia sensor comprising:
- a lower substrate;

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- a device wafer comprising a lower silicon including a structure on which a first border, a first fixed point and a first sensing electrode for sensing a capacity in a horizontal direction are formed on the same surface of the lower substrate;
- an upper silicon including a second border, the second 20 fixed point and a second sensing electrode for sensing a capacity in a vertical direction between the structure, which correspond to the first border, the first fixed point and the structure on the lower silicon, respectively;

- a cap wafer, being positioned on an upper portion of the upper silicon, and including the upper substrate providing the via hole connected to a metal wiring; and
- a bonded layer by an eutectic bonding between the upper silicon and the lower silicon.
- 8. The micro inertia sensor according to claim 7, wherein the via hole is formed on the upper glass substrate, extending to the inside of the fixed point of the upper silicon.
 - 9. The micro inertia sensor according to claim 7, wherein the lower substrate and the upper substrate are made of glass.
- 15 10. The micro inertia sensor according to claim 7, wherein the via hole is formed in the "V" shape from the upper substrate to the inside of the upper silicon, by evaporating the metal film of an electric conductivity.
- 20 11. The micro inertia sensor according to claim 7, wherein the device wafer and the cap wafer are SOG (silicon on glass) wafer.

- 12. The micro inertia sensor according to claim 7, wherein the device wafer and the cap wafer are SOI (silicon on insulator) wafer.
- 5 13. The micro inertia sensor according to claim 7, wherein the device wafer and the cap wafer are LPCVD polysilicon wafer.
- 14. The micro inertia sensor according to claim 7, wherein the device wafer and the cap wafer are Epi polysilicon wafer.